



Transflective 3.0-Type High-Resolution VGA TFT LCD Panel for Digital Still Cameras Features Multi-Interface Support

ACX561AKA

The ACX561AKA is an LCD panel for digital still cameras that responds to the needs for even greater functionality due to the increasing popularity of the digital still camera. The ACX561AKA is a 3.0-type VGA LCD panel that uses COG technology to support multiple interfaces. In addition to the high picture quality of 270 ppi, the ACX561AKA also achieves high contrast, a wide viewing angle, rapid response, and a wide NTSC 70% color gamut. Furthermore, it is a transflective mode display that can be seen clearly even outdoors.

- 3.0-type VGA
- Digital interface
- High contrast and wide viewing angle
- Wide color gamut
- Fast response
- Narrow frame system display

* VSPEC™ and  VSPEC™ are trademarks of Sony Corporation.

VSPEC II™ and  VSPEC II™ are trademarks of Sony Corporation.

■ 3.0-Type VGA

The ACX561AKA is a 3.0-type 640 × RGB × 480 dot wide viewing angle panel designed for high-end applications that features transflective mode operation, which provides the advantages of both transmissive and reflective displays. This product is based on Sony's unique low-temperature polycrystalline silicon TFT technology. It is capable of a high 5.3% transmittance at a reflectivity of 1.8% and achieves high-performance specifications. (See table 1.)

■ Digital Interface

The ACX561AKA features a single-chip driver IC built into the panel using COG mounting technology and can display 16.77 million colors. In addition to this digital 24-bit RGB interface, it also supports a wide variety of other interface formats as well. (See table 2.)

■ High Contrast and Wide Viewing Angle



This panel adopts Sony's unique VSPEC II™ wide viewing angle technology, which improves the viewing angle provided by VSPEC™ even further. This panel achieves a viewing angle of 160° at high contrast (CR ≥ 10) and with no color reversals in the up/down and/or left/right directions, and thus can be viewed easily from any direction. (See table 3.)

■ Wide Color Gamut

The transmissive mode's color gamut has been significantly improved from the current NTSC ratio of 45% to an NTSC ratio of 70%. This allows the ACX561AKA to provide colors that are even closer to those in nature. (See figure 1.)

■ Fast Response

While a wide viewing angle was achieved by adopting VSPEC II™, the response time was also improved in the ACX561AKA. Process technology and a drive method that support high-speed response were adopted and the response time was improved by approximately 30% even at low temperatures. (See figure 2.)

■ Narrow Frame System Display

Despite the high resolution VGA display capability, the ACX561AKA holds the frame dimensions to an absolute minimum by the adoption of an RGB selector circuit (see figure 3) and improvements to the COG/FOG*¹ mounting technologies. It thus achieves specifications appropriate for narrow frame designs such as digital still cameras. (See figure 4.)

*1 COG: Chip On Glass
FOG: FPC On Glass

V O I C E

This is a transflective mode LCD panel that achieves the high resolution of 270 ppi in a 3.0-type VGA display. The pixel size is at the limit of human visual acuity and it produces gorgeous images far superior to other LCD systems. I strongly recommend this display for use in high-end digital still cameras and other applications that require superb picture quality.

■ Table 1 Main Characteristics

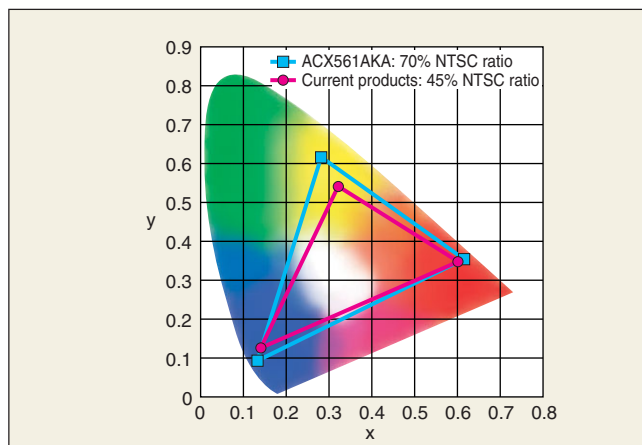
Item	ACX561AKA
Type	Transflective mode
Size	3.0 type
Number of dots	640 × RGB × 480 (VGA)
Pixel array	RGB stripe array
Dot pitch	31.25 × 93.75
Effective display area	60.0 mm × 45.0 mm
Number of colors	16.77 million colors
Viewing angle	Over 160° in the up/down and/or left/right directions
Transmittance	5.3%
Reflectance	1.8%
Contrast (transmissive mode)	430:1
Contrast (reflective mode)	15:1
Gamut	70%
Response time (on + off)	35 ms
Package dimensions	72.9 mm × 52.3 mm × 1.66 mm

■ Table 2 Supported Interfaces

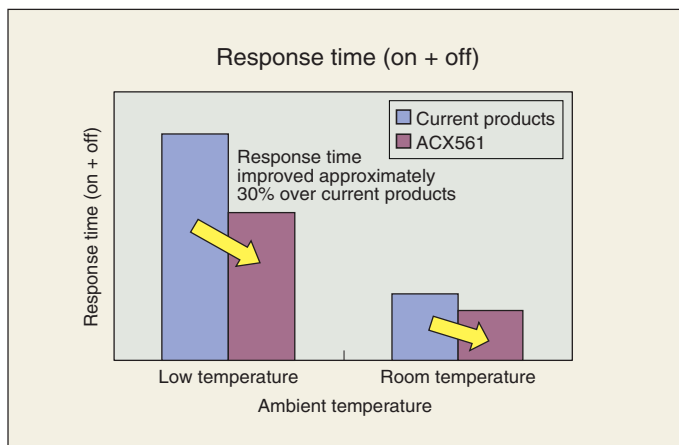
Data	Data size (bits)	Operating frequency (MHz)	Signal type
RGB	24	27	480 progressive
	24	13.5	480 interlace
	8	40.5	480 interlace
YUV	16	27	480 progressive
	8	54	480 progressive
	8	27	480 interlace

■ Table 3 High Contrast and Wide Viewing Angle Technologies

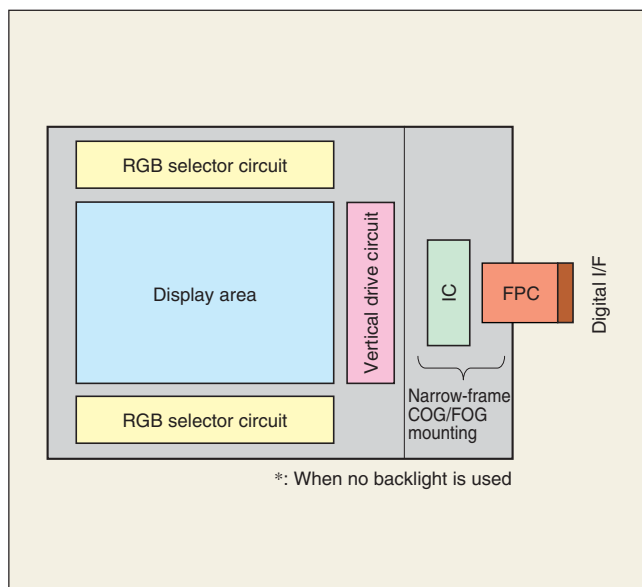
	TN	VSPEC™	VSPEC II™	
Contrast when viewed directly	300:1	240:1	430:1	
Viewing angle	Up/down	95°	135°	160°
	Left/right	80°	135°	160°
ISO contrast				
Color reversal	Bad	Good	Excellent	



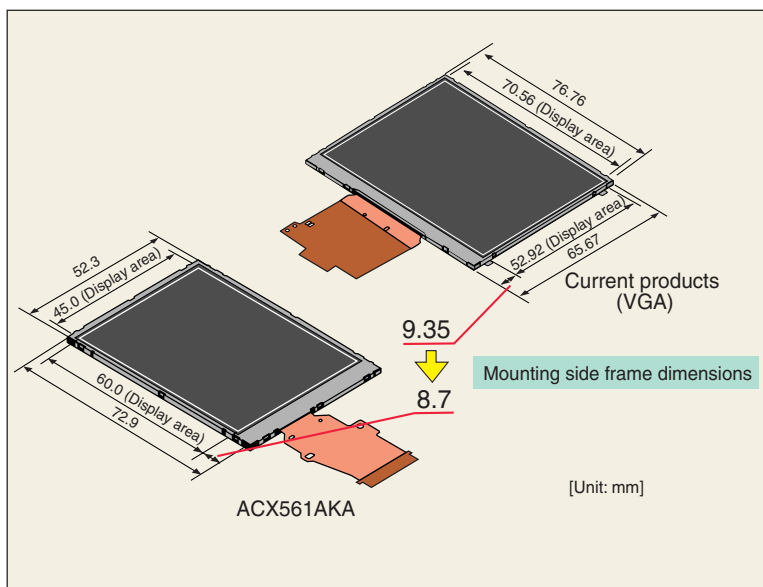
■ Figure 1 Wide Gamut Display



■ Figure 2 Fast Response



■ Figure 3 Block Diagram



■ Figure 4 Module External Dimensions